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Après cette simple constatation de faits je demanderai aussi s'il est possible d'admettre que l'*Indus*, à peu près aussi large, et certainement aussi noir que la *mer de Kaiser* en 1881–82, peut n'être que la limite de deux régions inégalement sombres ou diversement colorées, imparfaitement vues ou imparfaitement distinguées l'une de l'autre ?

Measures of the Companion to Sirius. By S. W. Burnham, Esq.

During the present season I have made the following measures of the companion to *Sirius* :—

	°	″
1881·835	42·6	9·72
81·840	43·9	9·56
81·843	43·6	9·20
81·859	43·1	8·87
81·865	43·2	9·62
82·085	47·4	9·48
82·088	44·4	9·64
82·102	43·6	9·11
82·104	43·4	9·35
82·145	41·7	9·25
82·148	43·0	9·36
Mean = 1881·99	43·6	9·38 11 nights.

The measures taken in 1881, the first five of the series, were made with the 12-inch Refractor of the Lick Observatory at Mount Hamilton. The other measures were made with the 18½-inch Refractor of the Dearborn Observatory.

Chicago :
1882, *May* 3.

On the Variable Star U Cephei. By George Knott, LL.B., B.A.

I succeeded in getting observations of four minima of U *Cephei* in March and April last, the results of which I give below, together with a comparison of the observed times with those deduced by carrying on Dr. Schmidt's Ephemeris (*A. N.* 2382) by the aid of his period 2·49277 days. In accordance with the practice generally adopted in the case of variable stars, the times are reduced to Paris Mean Time, by adding $9^{m}{\cdot}3$ to the G. M. T. of observation, which was read off from the light-curve to the nearest minute. The observations show that the period is subject to irregularities—a result quite in accordance with those obtained by other observers.

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Min. Observed.				Min. Calc.		C−O.	Obs. Mag.
	d	h	m	h	m	m	
1882, March	18	12	30·3	12	9·3	−21·0	9·5
April	7	11	14·3	10	45·9	−28·4	9·45
	22	10	14·3	9	43·5	−30·8	9·5
	27	9	54·3	9	22·7	−31·6	9·45

As is well known, the minima of this variable occur in sets, alternate minima being observable at intervals of about five days. The intermediate minima are observed when the next set comes round. For convenience I will call these A and B sets. From an examination of my observations I have a strong suspicion that there is a difference of about three-tenths of a magnitude between the minimum magnitude reached in the A and B sets respectively. I have now observed two sets of each, and in the following table give the magnitudes observed by me in the minima of each set respectively:—

A_1 Set.	B_1 Set.	A_2 Set.	B_2 Set.
m	m	m	m
9·1	9·4	9·2	9·5
9·1	9·4	9·2	9·45
9·2	9·4	9·2	9·5
9·1	9·4	9·25	9·45
	9·4		
	9·4		

The dates of the several sets are:*—

A_1	1880, Oct. 23	—	1881, Jan. 6
B_1	1881, Mar. 29	—	May 8
A_2	Sept. 27	—	Dec. 21
B_2	1882, Mar. 18	—	1882, April 27

The differences, though not great, are so fairly consistent as to lead me to think that they can hardly be due to accident merely. If further observation should confirm my suspicion, it would appear that we must regard the period as a double one.

Professor Pickering in his "Photometric Measurements of the Variable Stars *β Persei* and D.M. 81° 25" (the latter being U *Cephei*) remarks of a neighbouring star D. M. 81° 18 that it "is either variable or its light in grades is erroneously given by M. Glasenapp." My own observations show that this star is certainly variable to the extent of some six-tenths of a magnitude, but I am unable as yet to see my way to any suggestion as to its probable period.

Knowles Lodge, Cuckfield:
1882, *June* 8.

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* The dates given are those of the first and last minimum observed in each set.

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